(Graphics must be either hard copy or PDF format) Applicants serving such demonstrations and certifications on other applicants and/or licensees should do so using the same format(s) and media as used in their submission to the Commission's Reference Room.

[44 FR 60534, Oct. 19, 1979, as amended at 48 FR 33901, July 26, 1983; 49 FR 25479, June 21, 1984; 52 FR 27556, July 22, 1987; 55 FR 46010, Oct. 31, 1990; 56 FR 57598, Nov. 13, 1991; 56 FR 57818, Nov. 14, 1991; 56 FR 65191, Dec. 16, 1991; 58 FR 11798, Mar. 1, 1993; 58 FR 44895, Aug. 25, 1993; 60 FR 36553, July 17, 1995; 60 FR 36739, July 18, 1995; 60 FR 57367, Nov. 15, 1995; 61 FR 18098, Apr. 24, 1996; 61 FR 26676, May 28, 1996; 63 FR 65102, Nov. 25, 1998; 64 FR 63731, Nov. 22, 1999; 65 FR 46617, July 31, 2000]

EFFECTIVE DATE NOTE: At 65 FR 46617, July 31, 2000, §21.902 was amended by adding paragraph (m). This paragraph contains information collection and recordkeeping requirements and will not become effective until approval has been given by the Office of Management and Budget.

§ 21.903 Purpose and permissible service.

(a) Multipoint Distribution Service channels are available for transmissions from MDS stations and associated MDS signal booster stations to receive locations, and from MDS response stations to response station hubs. When service is provided on a common carrier basis, subscriber supplied information is transmitted to points designated by the subscriber. When service is provided on a non-common carrier basis, transmissions may include information originated by persons other than the licensee, licensee-manipulated information supplied by other persons, or information originated by the licensee. Point-to-point radio return links from a subscriber's location to a MDS operator's facilities may also be authorized in the 18,580 through 18,820 MHz and 18,920 through 19,160 MHz bands. Rules governing such operation are contained in subpart I of part 101 of this chapter, the Point-to-Point Microwave Radio Service.

(b) Unless otherwise directed or conditioned in the applicable instrument of authorization, Multipoint Distribution Service stations may render any kind of communications service consistent with the Commission's rules on a common carrier or on a non-common carrier basis, *Provided* That:

(1) Unless service is rendered on a non-common carrier basis, the common carrier controls the operation of all receiving facilities (e.g., including any equipment necessary to convert the signal to a standard television channel, but excluding the television receiver); and

(2) Unless service is rendered on a non-common carrier basis, the common carrier's tariff allows the subscriber the option of owning the receiving equipment (except for the decoder) so long as:

(i) The customer provides the type of equipment as specified in the tariff;

(ii) Such equipment is in suitable condition for the rendition of satisfactory service; and

(iii) Such equipment is installed, maintained, and operated pursuant to the common carrier's instructions and control.

(c) The carrier's tariff shall fully describe the parameters of the service to be provided, including the degree of privacy of communications a subscriber can expect in ordinary service. If the ordinary service does not provide for complete security of transmission, the tariff shall make provision for service with such added protection upon request.

(d) An MDS licensee also may alternate, without further authorization required, between rendering service on a common carrier and non-common carrier basis, provided that the licensee notifies the Commission of any service status changes at least 30 days in advance of such changes. The notification shall state whether there is any affiliation or relationship to any intended or likely subscriber or program originator.

[44 FR 60534, Oct. 19, 1979, as amended at 52 FR 27556, July 22, 1987; 61 FR 26676, May 28, 1996; 63 FR 65103, Nov. 25, 1998; 64 FR 4054, Jan. 27, 1999; 64 FR 63732, Nov. 22, 1999]

§ 21.904 EIRP limitations.

(a) The maximum EIRP of a main or booster station shall not exceed 33 dBW + 10log(X/6) dBW, where X is the actual bandwidth if other than 6 MHz, except as provided in paragraph (b) of this section.

(b)(i) If a main or booster station sectorizes or otherwise uses one or more transmitting antennas with a non-omnidirectional horizontal plane radiation pattern, the maximum EIRP in a given direction shall be determined by the following formula:

EIRP = 33 dBW + 10 log(X/6) dBW + 10 log(360/beamwidth) dBW, where X is the channel width in MHz and 10 log(360/beamwidth) ≤ 6 dB.

(ii) Beamwidth is the total horizontal plane beamwidth of the individual transmitting antenna for the station or any sector measured at the half-power points.

(c) An increase in station EIRP, above currently-authorized or previously-proposed values, to the maximum values provided in paragraphs (a) and (b) of this section may be authorized, if the requested increase would not cause harmful interference to any authorized or previously-proposed, cochannel or adjacent channel station entitled to interference protection under the Commission's rules, or if an applicant demonstrates that:

(1) A station that must be protected from interference could compensate for interference by increasing its EIRP; and

(2) The interfered-with station may increase its own EIRP consistent with the rules and without causing harmful interference to any cochannel or adjacent channel main or booster station protected service area, response station hub or BTA/PSA, for which consent for the increased interference has not been obtained; and

(3) The applicant requesting authorization of an EIRP increase agrees to pay all expenses associated with the increase in EIRP by the interfered-with station.

(d) For television transmission if the authorized bandwidth is 4.0 MHz or more for the visual and accompanying aural signal, the peak power of the accompanying aural signal must not exceed 10 percent of the peak visual power of the transmitter. The Commission may order a reduction in aural signal power to diminish the potential for harmful interference.

(e) For main, booster and response stations utilizing digital emissions with non-uniform power spectral density (*e.g.* unfiltered QPSK), the power measured within any 100 kHz resolution bandwidth within the 6 MHz channel occupied by the non-uniform emission cannot exceed the power permitted within any 100 kHz resolution bandwidth within the 6 MHz channel if it were occupied by an emission with uniform power spectral density, *i.e.*, if the maximum permissible power of a station utilizing a perfectly uniform power spectral density across a 6 MHz channel were 2000 watts EIRP, this would result in a maximum permissible power flux density for the station of 2000/60 = 33.3 watts EIRP per 100 kHz bandwidth. If a non-uniform emission were substituted at the station, station power would still be limited to a maximum of 33.3 watts EIRP within any 100 kHz segment of the 6 MHz channel, irrespective of the fact that this would result in a total 6 MHz channel power of less than 2000 watts EIRP.

[64 FR 63732, Nov. 22, 1999]

§ 21.905 Emissions and bandwidth.

(a) A station transmitting a television signal shall not exceed a bandwidth of 6 MHz (for both visual signal and accompanying aural signal), and will normally employ vestigial sideband, amplitude modulation (C3F) for the visual signal, and frequency modulation (F3E) or (G3E) for the accompanying aural signal.

(b) Quadrature amplitude modulation (QAM), digital vestigial sideband modulation (VSB), quadrature phase shift key modulation (QPSK), code division multiple access (CDMA), and orthogonal frequency division multiplex (OFDM) emissions may be employed, subject to compliance with the policies set forth in the Declaratory Ruling and Order, 11 FCC Rcd 18839 (1996). Use of OFDM also is subject to the subsequent Declaratory Ruling and Order, DA 99–554 (Mass Med. Bur. rel. Mar. 19, 1999). Other digital emissions may be added to those authorized above, including emissions with non-uniform power spectral density, if the applicant provides information in accordance with the guidelines and procedures set forth in the Declaratory Ruling and Order